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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM
EPA CONTRACT 68-W5-0019

4 May 1999

Mr. Joseph Cosentino, On-Scene Coordinator
U.S. Environmental Protection Agency
Removal Action Branch
2890 Woodbridge Avenue
Edison, N.J. 08837

EPA CONTRACT NO: 68-W5-0019
TDD NO: 02-98-09-0023
DOCUMENT CONTROL NO: START-02-F-03459
SUBJECT: BAYONNE BARREL AND DRUM - REVISED REDUCED DATA REPORT

Dear Mr. Cosentino:

Enclosed please find the Revised Reduced Data Report summarizing START's groundwater sampling event at the Bayonne Barrel and Drum Site in Newark, New Jersey, from November 30 - December 2, 1998. Historical groundwater sampling data is included for comparitive purposes. Also included in this package are the Site Location Maps you requested of the Bayonne Barrel & Drum Site and the Newark Multiplex Cinema.

If you have any questions, do not hesitate to contact me at (732) 225-6116.

Very truly yours,
Roy F. Weston, Inc.

John F. Brennan

cc: TDD File

372182

START Sampling Summary

START was tasked by the United States Environmental Protection Agency to sample the eleven active* monitoring wells at the Bayonne Barrel & Drum Site. START conducted this sampling between November 30 - December 2, 1998. START sampled the monitoring wells for the following parameters:

> TAL Metals (23 metals), TCL Organics (Volatile Organic Compounds, Semi-Volatile Organic Compounds, Pesticides, PCBs, and specifically requested Wet Chemistry Methods which included Ammonia, Color, Fluoride, Hardness, Nitrate, Nitrite, Odor, Oil & Grease, Total Dissolved Solids (TDS), and Total Petroleum Hydrocarbons (TPH)

*START was unable to sample monitoring well BBD-C2 due to the fact that the inner well casing had collapsed.

Historical Sampling Summary

Historical sampling data reviewed by START indicates that there has been several monitoring well sampling events conducted at the Bayonne Barrel & Drum Site. Historical data obtained by START dates as far back as 1986. There is no record of START or TAT ever sampling the monitoring wells prior to November 1998.

On January 6, 1986, **Dan Raviv Associates, Inc.,** examined monitoring wells BBD-C1, BBD-C2, BBD-C3, BBD-C4, and BBD-C5. The sampling was conducted on behalf of Scheider & Werner, P.A. (Newark, N.J.) and a report was issued on April 18, 1986, updated July, 1986. The monitoring wells were sampled for the following parameters:

BBD-C1, BBD-C2, BBD-C3, BBD-C5:	PCBs, TPH, Volatile Organic Compounds
BBD-C4:	129 Priority Pollutants**

> **This includes PP+40 (Volatile Organic Compounds (VO+15) and Semi-Volatile Organic Compounds (BNA+25), PP Metals (14 metals), Phenols, and Cyanides.

On May 27, 1986, **Louis Berger and Associates, Inc.,** examined monitoring wells LB-MW1, LB-MW2, and LB-MW3. The sampling was conducted on behalf of the New Jersey Turnpike Authority (New Brunswick, N.J.) and a final report was issued in December, 1986. The monitoring wells were sampled for the following parameters:

LB-MW1, LB-MW2, LB-MW3:	PP+40 (Volatile Organic Compounds (VO+15) and Semi-Volatile Organic Compounds (BNA + 25), PP Metals (14 metals), PP Pesticides, Phenols, Cyanides, and PCBs

On June 21, 1988, **Wehran Engineers & Scientists** examined monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05. The sampling was conducted on behalf of National Amusements, Inc., (Dedham, Massachusetts) and a report was issued in October, 1988. It is

START's understanding that the monitoring wells examined by Wehran Engineers & Scientists are located off-site at the current Newark Multiplex Cinema. The monitoring wells were sampled for the following parameters:

MW-01, MW-02, MW-03, MW-04, MW-05:	Volatile Organic Compounds, Semi-Volatile Organic Compounds, Pesticides, Herbicides, PCBs, TPH, Phenols, Cyanide, PP Metals (14 metals), and specifically requested Wet Chemistry Methods which included Ammonia, BOD, COD, Chloride, Total Coliforms, Conductivity, TDS, MBAS, Nitrate-Nitrogen, Odor, Oil & Grease, and Sulfates

BAYONNE BARREL & DRUM SITE
NEWARK, NEW JERSEY

REDUCED DATA TABLES
START DATA
NOVEMBER 30 - DECEMBER 2, 1998

TABLE 1
Bayonne Barrel & Drum Site
Volatile Organic Compounds

Monitoring Well ID			LB-MW1	2614909-5	BBD-C3	BBD-C5	WELL A	WELL B
Sample Date			12/02/98	12/02/98	12/01/98	12/02/98	11/30/98	11/30/98
	MDL	NJGWQC						
Acetone	10	700	UJ	UJ	UJ	9 J	53 J	UJ
Bromodichloromethane	10	0.3*	U	U	U	**6 J**	U	U
Benzene	10	0.2*	**7 J**	**9 J**	**4 J**	**26**	**16**	**9 J**
4-Methyl-2-Pentanone	10	400	U	U	U	U	120 J	U
Chlorobenzene	10	4*	U	2 J	U	**38**	U	U
Ethylbenzene	10	700	68	7 J	U	6 J	21	U
Styrene	10	100	U	U	U	U	U	U
Total Xylenes	10	40	25	19	1 J	**44**	39	U

Volatile Organic compound contamination data illustrated in the above table was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except where the MDL exceeded the NJGWQC.

NOTES

*MDL exceeds NJGWQC
**NJGWQC (cis isomer - 10 ug/L; trans isomer - 100 ug/L)
All data reported in micrograms per liter (ug/L)
Well-B is the duplicate sample of LB-MW2. LB-MW2 exhibited no signs of volatile organic contamination
Bold denotes data that exceeds NJGWQC

MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)

TABLE 2
Bayonne Barrel & Drum Site
Semi-Volatile Organic Compounds

Sample ID Sample Date	MDL	NJGWQC	2614904 12/02/98	BBD-C1 12/02/98	BBD-C3 12/01/98	BBD-C5 12/02/98	LB-MW1 12/02/98	WELL A 11/30/98
Phenol	10	4000	U	U	U	U	U	**940 ****
4-Methylphenol	10	None Given	U	U	U	U	U	**10000 ****
2,4-Dimethylphenol	10	100	U	U	13	U	U	**15000 ****
Naphthalene	10	None Given	25	U	U	17	**3900 ****	38
2-Methylnaphthalene	10	None Given	33	U	U	15	**850 ****	U
Acenaphthene	10	400	2 J	U	U	2 J	53	1 J
Dibenzofuran	10	None Given	U	U	U	U	11	U
Fluorene	10	300	U	U	U	U	64	U
Phenanthrene	10	NA	U	U	U	2 J	**73 ****	U
Anthracene	10	2000	U	U	U	U	11	U
bis(2-Ethylhexyl)phthalate	10	3*	U	1 J	U	**29**	U	U

**- DF=50

Semi-Volatile Organic compound contamination data illustrated in the above table was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except where the MDL exceeded the NJGWQC.

NOTES

* MDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
Bold denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
ND - Not Detected
NA - Not Available For This Constituent As Per NJGWQC

TABLE 3
Bayonne Barrel & Drum Site
Pesticides

PESTICIDE	MDL	NJGWQC	BBD-C3	BBD-C5	LB-MW1	LB-MW3	2614909-5
Beta-BHC	0.05	0.2	U	U	R	0.05	**0.21 JN**
Gamma-BHC	0.05	0.2	U	U	0.056 J	U	U
Aldrin*	0.05	0.002	U	**0.15**	U	U	U
Endosulfan 1	0.05	0.4	0.11 JN	U	U	U	U
4,4'-DDE	0.1	0.1	U	**0.30**	U	U	0.0071 J**
Endrin	0.1	2.0	0.31 JN	U	0.071 J**	U	U
4,4'-DDD	0.1	0.1	U	**0.65**	U	U	U
Endrin Aldehyde	0.1	None Given	0.13	U	U	U	U

Pesticide contamination data illustrated in the above data was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except in the case of monitoring wells 2614909-5 and LB-MW1.

NOTES

** Data did not equal or exceed the MDL
* MDL exceeds NJGWQC
All data indicated in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method detection Limit
J - Estimated Value
JN - Presumptive evidence of a compound at an estimated value
R - Rejected Data

TABLE 4
Bayonne Barrel & Drum Site
Polychlorinated Biphenyls (PCBs)

START sampled 11 of the 12 monitoring wells on site for PCBs between November 30 - December 2, 1998. Seven species of Arochlors were examined (1016, 1221, 1232, 1242, 1248, 1254, 1260). The only monitoring well that showed any signs of PCB contamination was BBD-C5.

PCB	MDL	NJGWQC	BBD-C5
Arochlor-1254	1.00 ug/L	0.02 ug/L	**1.7 ug/L**

NOTES
All data indicated in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method detection Limit

TABLE 5
Bayonne Barrel & Drum Site
Metals

			BBD-C1		BBD-C3		BBD-C4		BBD-C5		LB-MW1		LB-MW2		WELL-B		LB-MW3		WELL-A		MW-29WA		2614909-5		2614920	
			START		START		START		START		START		START		START		START		START		START		START		START	
METALS	IDL	NJGWQC	12/02/98		12/01/98		11/30/98		12/01/98		12/02/98		11/30/98		11/30/98		12/02/98		11/30/98		12/01/98		12/02/98		12/02/98	
Aluminum	22.1	200	123	B	63.7	B	31.7	B	46.6	B	43.3	B	286		87.7	B	22.1	U	37.9	B	267		22.1	U	22.1	U
Antimony	1.7	2	1.7	U	4.5	B	1.7	U	50.9	B	1.7	U	1.7	U	1.7	U	45.1	B	1.7	U	5.9	B	1.7	U	1.7	U
Arsenic*	1.7	0.02	17.2		15.4		21.7		3.3	B	4.2	B	8.7	B	2.8	B	5	B	3.8	B	22.1		9.4	B	7.6	B
Barium	0.4	2,000	125	B	217		288		164	B	434		130	B	104	B	146	B	330		1300		1590		347	
Beryllium*	0.2	0.008	0.20	U	0.22	B	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	1.0	4	2.5	B	1.0	B	3.7	B	1.0	U	1.3	B	1	U	1.2	B	1.7	B	1.3	B	4.7	B	1.3	B	2.9	B
Calcium	14.6	None Given	216,000		64,200		286,000		61,700		126,000		76,400		112,000		58,100		118,000		76,000		131,000		239,000	
Chromium	0.6	100	18.4		2.1	B	2.4	B	4.6	B	1.2	B	7.9	B	3.5	B	3.7	B	6.3	B	19.6		4.9	B	3	B
Cobalt	0.4	None Given	6.2	B	4.3	B	1.3	B	3.2	B	1.6	B	1.2	B	0.41	B	2.9	B	0.6	B	115	J	0.93	B	1.6	B
Copper	0.8	1,000	1.4	B	10.7	B	1.7	B	8.6	B	1.2	B	3.2	B	1.1	B	8.3	B	2.2	B	27.3	J	1.3	B	0.95	B
Iron	8.5	300	29,400		1270		82,400		902		11,000		14,300		11,600		804		7910		40,600		23,900		47,000	
Lead	0.7	5	2.5	B	1.6	B	1.1	B	2.1	B	1.4	B	6.5	J	2.4	B	0.7	U	0.7	U	264		3.3		0.7	U
Magnesium	7.9	None Given	38,400		93,500		40,300		11,400		16,800		33,300		47,200		10,400		37,500		8880		41,500		37,200	
Manganese	0.2	50	6800		8350		2460		140		990		1060		1250		130		922		613		225		879	
Mercury	0.1	2	0.10	U	0.10	U	0.1	U	0.37		0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.13	B	0.1	U	0.1	U
Nickel	0.7	100	17.3	B	8.7	B	15.5	B	7.5	B	1.4	B	6	B	2	B	7.4	B	12.1	B	541		34.9	B	11.7	B
Potassium	25.9	None Given	38,200	J	65,200	J	38,200	J	7460	J	10,500	J	73,100		73,900	J	6580	J	62,800	J	4530	B	31,400	J	53,400	J
Selenium	2.4	50	3.3	B	3.3	B	5		2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	3.5	B
Silver	0.4	N/A	0.40	U	0.40	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.82	B	0.4	U	0.4	U
Sodium	128	50,000	145,000		1,010,000		123,000		114,000		163,000		315,000		443,000		103,000		568,000		41,000		50,400		83,500	
Thallium*	2.9	0.5	5.6	B	5.1	B	5.1	B	2.9	U	2.9	U	2.9	U	2.9	U	3.8	B	2.9	U	2.9	U	2.9	U	2.9	U
Vanadium	0.4	None Given	1.8	B	5.3	B	3.1	B	2.9	B	1.6	B	3.7	B	4.2	B	2.3	B	5.8	B	2.9	B	2.4	B	3.3	B
Zinc	1.5	5,000	1.5	U	1.5	U	5	B	10.6	B	1.5	U	50.6	J	8.5	B	9.5	B	1.5	U	3570		1.5	U	1.5	U

NOTES
*IDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
WELL-B is the duplicate sample of LB-MW2
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
CRDL - Contract Required Detection Limit
IDL - Instrument Detection Limit (for START's sample analysis)
B - Between the IDL and CRDL
J - Estimated Value
U - Non-Detected Compound
ND - Not-Detected
NS - Not Sampled

TABLE 6
Bayonne Barrel & Drum Site
Wet Chemistry Parameters

WET CHEMISTRY	NJGWQC	MDL	LB-MW1	LB-MW2	WELL-B	LB-MW3	BBD-C1	BBD-C3	BBD-C4	BBD-C5
Hardness	250,000	3000	**304,000***	**506,000****	**533,000****	201,000*	**746,000****	**590,000****	**951,000****	243,000*
Ammonia	500	100	**2520**	**18,900***	**16,600**	**4680**	**24,000**	**5190**	**22,400***	**7230**
Total Dissolved Solids	500,000	10,000	**826,000**	**1,600,000 J**	**1,760,000 J**	**10,300,000**	**1,160,000**	**3,250,000**	**1,240,000 J**	285,000
Total Petroleum HC	None Noticable	2500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	**4800**
Oil & Grease	None Noticable	15,000	**19,900**	BRL	BRL	BRL	BRL	BRL	BRL	**19,200**
Fluoride	2000	100	502	332	307	919	170	712	250	176
Odor (T.O.N.)	3	N/A	**128**	**128**	**512**	N/D	**128**	N/D	**128**	**256**
Color (PCU)	10	5.0 (PQL)	**29**	**48**	**37**	**29**	**29**	**96**	**52**	**155**
Nitrite	1000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100	<100
Nitrate	10000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100	<100

WET CHEMISTRY	NJGWQC	MDL	WELL-A	MW-29WA	2614909-5	2614920	RIN-001	RIN-002	RIN-003
Hardness	250,000	3000	**503,000****	**548,000****	**657,000****	**795,000****	BRL	BRL	BRL
Ammonia	500	100	**18,800**	**31,600***	**25,400***	**35,900***	BRL	BRL	BRL
Total Dissolved Solids	500,000	10,000	**2,070,000 J**	**660,000**	**2,320,000**	**881,000**	BRL J	BRL	BRL
Total Petroleum HC	None Noticable	2500	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Oil & Grease	None Noticable	15000	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluoride	2000	100	444	368	513	373	BRL	147	BRL
Odor (T.O.N.)	3	N/A	**640**	**32**	**128**	**80**	N/D	1	N/D
Color (PCU)	10	5.0 (PQL)	**276**	**29**	**33**	**40**	<5	<5	<5
Nitrite	1000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100
Nitrate	10000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100

NOTES

All data reported in micrograms per liter (ug/L) except Odor and Color
WELL-B is the duplicate sample of LB-MW2
Bold denotes data that exceeds NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit
PQL - Practical Quantitation Limit
T.O.N. - Threshold Odor Number
PCU - Platinum Color Unit
N/A - Not Applicable
N/D - Not Dedected
BRL - Below Reporting Limit
J - Estimated Value
*10 X D/F ; **50 X D/F

BAYONNE BARREL & DRUM SITE
NEWARK, NEW JERSEY

REDUCED DATA TABLES
HISTORICAL DATA

TABLE 1
Bayonne Barrel & Drum Site
Volatile Organic Compounds

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, BBD-C4, and BBD-C5 on January 7, 1986. In regards to Priorty Pollutant Volatile Organic compounds of significance, the following contamination was found:

	NJGWQC	BBD-C3	BBD-C4	BBD-C5
Bromodichlorometha	0.3	**5**	ND	ND
Benzene	0.2	ND	**28**	ND
Toluene	1000	ND	5	150
Chlorobenzene	4	ND	ND	**67**
Ethylbenzene	700	ND	ND	**1060**
1,2 & 1,1 Dichloroben	None Given	ND	ND	76

Historical data indicates that Louis Berger & Associates, Inc., examined monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986. In regards to Volatile Organic Compounds of significance, no contamination was detected:

NOTES

*MDL exceeds NJGWQC
**NJGWQC (cis isomer - 10 ug/L; trans isomer - 100 ug/L)
All data reported in micrograms per liter (ug/L)
Well-B is the duplicate sample of LB-MW2. LB-MW2 exhibited no signs of volatile organic contamination
Bold denotes data that exceeds NJGWQC

MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)

TABLE 2
Bayonne Barrel & Drum Site
Semi-Volatile Organic Compounds

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring well BBD-C4 on January 27, 1986 and found the following Semi-Volatile Organic compound contamination:

	NJGWQC	BBD-C4
Di-n-butylpthalate	None Given	28
Napthalene	None Given	14

Historical data indicates that Louis Berger & Associates, Inc., examined monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986. The following Semi-Volatile Organic compounds were found:

	NJGWQC	LB-MW1	LB-MW3
Methyl Benzene	None Given	7	ND
2,4 Dimethylphenol	100	ND	21.9
Acenapthene	400	ND	2.3

NOTES

* MDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
Bold denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
ND - Not Detected
NA - Not Available For This Constituent As Per NJGWQC

TABLE 3
Bayonne Barrel & Drum Site
Pesticides

HISTORICAL DATA

Historical data indicates that Louis Berger & Associates, Inc., sampled monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986 for Priority Pollutant Pesticides. No pesticide contamination was detected during this sampling event. Priority Pollutant Pesticides include Beta-BHC, 4,4'-DDE, 4,4'-DDT, Endosulfan Sulfate, and Endrin Aldehyde.

TABLE 4
Bayonne Barrel & Drum Site
Polychlorinated Biphenyls (PCBs)

HISTORICAL DATA

Historical data indicates that Louis Berger & Associates, Inc., sampled monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986, for PCBs. No contamination was detected.

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, and BBD-C5 for PCBs on January 27, 1986. The only monitoring well that showed any signs of PCB contamination was BBD-C5:

PCB	MDL	NJGWQC	BBD-C5
Arochlor - 1254	1.0ug/L	0.02 ug/L	**53 ug/L**

It is interesting to note that BBD-C5 is located in the former "Oil Storage Area" of the site.

NOTES

All data indicated in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit

TABLE 5
Bayonne Barrel & Drum Site
Metals

		LB-MW1	LB-MW2	LB-MW3	BBD-C4
		L. Berger	L. Berger	L. Berger	D. Raviv
METALS	NJGWQC	5/27/86	5/27/86	5/27/86	1/27/86
Aluminum	200	NS	NS	NS	NS
Antimony	2	**3.1**	**2.6**	**3.1**	ND
Arsenic	0.02	**2.0**	**2.0**	ND	**10.0**
Barium	2,000	NS	NS	NS	NS
Beryllium	0.008	ND	ND	ND	ND
Cadmium	4	0.83	ND	2.5	ND
Calcium	None Given	NS	NS	NS	NS
Chromium	100	1.4	2.39	12	ND
Cobalt	None Given	NS	NS	NS	NS
Copper	1,000	7.8	8.39	7.8	40.0
Iron	300	NS	NS	NS	NS
Lead	5	ND	ND	ND	ND
Magnesium	None Given	NS	NS	NS	NS
Manganese	50	NS	NS	NS	NS
Mercury	2	ND	ND	0.65	ND
Nickel	100	ND	22	15	ND
Potassium	None Given	NS	NS	NS	NS
Selenium	50	ND	ND	ND	ND
Silver	N/A	ND	ND	2.0	30.0
Sodium	50,000	NS	NS	NS	NS
Thallium	0.5	ND	ND	ND	ND
Vanadium	None Given	NS	NS	NS	NS
Zinc	5,000	29	69	71.0	30.0

NOTES

All data reported in micrograms per liter (ug/L)
WELL-B is the duplicate sample of LB-MW2
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
B - Between the IDL and CRDL
J - Estimated Value
U - Non-Detected Compound
ND - Not-Detected
NS - Not Sampled

TABLE 6
Bayonne Barrel & Drum Site
Wet Chemistry Parameters

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, and BBD-C5 for Total Petroleum Hydrocarbons (TPH) on January 7, 1986. All four monitoring wells showed TPH contamination, although the field blank did as well.

Dan Raviv	NJGWQC	BBD-C1	BBD-C2	BBD-C3	BBD-C5	Field Blank
Total Petroleum HC	None Noticable	2800	3700	4800	2,000,000	1800

NOTES

All data reported in micrograms per liter (ug/L) except Odor and Color
Bold denotes data that exceeds NJGWQC
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)

BAYONNE BARREL & DRUM SITE
NEWARK, NEW JERSEY

REDUCED DATA TABLES
OFF-SITE DATA

Bayonne Barrel & Drum Site

Volatile Organic Compounds

Historical data indicates that Wehran Engineers & Scientists examined monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 21, 1988. In regards to Volatile Organic Compounds of significance, the only contaminant detected above the analytical detection limit was 1,2 Dichloroethene (total).

	NJGWQC	MW-02	MW-03	MW-04
1,2 Dichloroethene (total)	10**	**27000**	**6**	**9**

Semi-Volatile Organic Compounds

In regards to Semi-Volatile Organic compounds, none were detected above the analytical detection limit.

Pesticides and PCBs

In regards to Pesticides and PCBs, none were detected above the analytical detection limit.

Metals

In regards to Metals, the following contaminates were found.

		MW-01	MW-02	MW-03	MW-04	MW-05
		Wehran	Wehran	Wehran	Wehran	Wehran
METALS	NJGWQC	6/21/88	6/21/88	6/21/88	6/21/88	6/21/88
Arsenic	0.02	**3220**	nd	nd	nd	nd
Barium	2000	nd	**237**	**404**	nd	**294**
Cadmium	4	nd	nd	nd	nd	nd
Chromium	100	nd	nd	nd	nd	nd
Copper	1000	nd	nd	nd	nd	nd
Iron	300	**44,700**	**1480**	**30,200**	**20,900**	**19,400**
Lead	5	nd	nd	nd	nd	nd
Manganese	50	**3920**	**278**	**2430**	**5050**	**1360**
Mercury	2	nd	nd	**0.2**	nd	**0.2**
Selenium	50	nd	nd	nd	nd	nd
Silver	N/A	nd	nd	nd	nd	nd
Sodium	50,000	**33,400**	**68,700**	**118,000**	**32,300**	**182,000**
Zinc	5000	**115**	**83**	nd	**32**	**34**

Wet Chemistry Parameters

In regards to Wet Chemistry Parameters, the following contaminates were found.

		MW-01	MW-02	MW-03	MW-04	MW-05
		Wehran	Wehran	Wehran	Wehran	Wehran
Wet Chemistry Parameters	NJGWQC	6/21/88	6/21/88	6/21/88	6/21/88	6/21/88
Ammonia	500	**2290**	**2890**	**34,900**	**21,800**	**41,900**
Total Dissolved Solids	500,000	**1,370,000**	**693,000**	**1,462,000**	**1,230,000**	**1,889,000**
Total Petroleum HC	None Noticable	**19,100**	**17,300**	**10,000**	**17,800**	**17,400**

*MDL exceeds NJGWQC
**NJGWQC (cis isomer - 10ug/L; trans isomer - 100ug/L)
All data reported in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC

BAYONNE BARREL & DRUM SITE
NEWARK, NEW JERSEY

REDUCED DATA TABLES
START, HISTORICAL, AND OFF-SITE DATA

TABLE 1
Bayonne Barrel & Drum Site
Volatile Organic Compounds

Monitoring Well ID			LB-MW1	2614909-5	BBD-C3	BBD-C5	WELL A	WELL B
Sample Date			12/02/98	12/02/98	12/01/98	12/02/98	11/30/98	11/30/98
	MDL	NJGWQC						
Acetone	10	700	UJ	UJ	UJ	9 J	53 J	UJ
Bromodichloromethane	10	0.3*	U	U	U	**6 J**	U	U
Benzene	10	0.2*	**7 J**	**9 J**	**4 J**	**26**	**16**	**9 J**
4-Methyl-2-Pentanone	10	400	U	U	U	U	120 J	U
Chlorobenzene	10	4*	U	2 J	U	**38**	U	U
Ethylbenzene	10	700	68	7 J	U	6 J	21	U
Styrene	10	100	U	U	U	U	U	U
Total Xylenes	10	40	25	19	1 J	**44**	39	U

Volatile Organic compound contamination data illustrated in the above table was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except where the MDL exceeded the NJGWQC.

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, BBD-C4, and BBD-C5 on January 7, 1986. In regards to Priority Pollutant Volatile Organic compounds of significance, the following contamination was found:

	NJGWQC	BBD-C3	BBD-C4	BBD-C5
Bromodichloromethane	0.3	**5**	ND	ND
Benzene	0.2	ND	**28**	ND
Toluene	1000	ND	5	150
Chlorobenzene	4	ND	ND	**67**
Ethylbenzene	700	ND	ND	**1060**
1,2 & 1,1 Dichlorobenzene	None Given	ND	ND	76

Historical data indicates that Louis Berger & Associates, Inc., examined monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986. In regards to Volatile Organic Compounds of significance, no contamination was detected:

Historical data indicates that Wehran Engineers & Scientists examined monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 21, 1988. In regards to Volatile Organic Compounds of significance, the only contaminant detected above the analytical detection limit was 1,2 Dichloroethene (total).

	NJGWQC	MW-02	MW-03	MW-04
1,2 Dichloroethene (total)	10**	**27000**	6	9

NOTES

*MDL exceeds NJGWQC
**NJGWQC (cis isomer - 10 ug/L; trans isomer - 100 ug/L)
All data reported in micrograms per liter (ug/L)
Well-B is the duplicate sample of LB-MW2. LB-MW2 exhibited no signs of volatile organic contamination
Bold denotes data that exceeds NJGWQC

MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)

TABLE 2
Bayonne Barrel & Drum Site
Semi-Volatile Organic Compounds

Sample ID Sample Date	MDL	NJGWQC	2614904 12/02/98	BBD-C1 12/02/98	BBD-C3 12/01/98	BBD-C5 12/02/98	LB-MW1 12/02/98	WELL A 11/30/98
Phenol	10	4000	U	U	U	U	U	940 **
4-Methylphenol	10	None Given	U	U	U	U	U	10000 **
2,4-Dimethylphenol	10	100	U	U	13	U	U	15000 **
Naphthalene	10	None Given	25	U	U	17	3900 **	38
2-Methylnaphthalene	10	None Given	33	U	U	15	850 **	U
Acenaphthene	10	400	2 J	U	U	2 J	53	1 J
Dibenzofuran	10	None Given	U	U	U	U	11	U
Fluorene	10	300	U	U	U	U	64	U
Phenanthrene	10	NA	U	U	U	2 J	73 **	U
Anthracene	10	2000	U	U	U	U	11	U
bis(2-Ethylhexyl)phthalate	10	3*	U	1 J	U	29	U	U

**- DF=50

Semi-Volatile Organic compound contamination data illustrated in the above table was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except where the MDL exceeded the NJGWQC.

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring well BBD-C4 on January 27, 1986 and found the following Semi-Volatile Organic compound contamination:

	NJGWQC	BBD-C4
Di-n-butylpthalate	None Given	28
Napthalene	None Given	14

Historical data indicates that Louis Berger & Associates, Inc., examined monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986. The following Semi-Volatile Organic compounds were found:

	NJGWQC	LB-MW1	LB-MW3
Methyl Benzene	None Given	7	ND
2,4 Dimethylphenol	100	ND	21.9
Acenapthene	400	ND	2.3

Historical data indicates that Wehran Engineers & Scientists examined monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 21, 1986, No Semi-Volatile Organic compounds were detected above the analytical detection limit.

NOTES

* MDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
Bold denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit
U - Non-detected compound.
B - Compound detected in the associated Method Blank.
J - Estimated value.
JN - Presumptive evidence of a compound at an estimated value.
R - Rejected compound.
ND - Not Detected
NA - Not Available For This Constituent As Per NJGWQC

TABLE 3
Bayonne Barrel & Drum Site
Pesticides

PESTICIDE	MDL	NJGWQC	BBD-C3	BBD-C5	LB-MW1	LB-MW3	2614909-5
Beta-BHC	0.05	0.2	U	U	R	0.05	**0.21 JN**
Gamma-BHC	0.05	0.2	U	U	0.056 J	U	U
Aldrin*	0.05	0.002	U	**0.15**	U	U	U
Endosulfan 1	0.05	0.4	0.11 JN	U	U	U	U
4,4'-DDE	0.1	0.1	U	**0.30**	U	U	0.0071 J**
Endrin	0.1	2.0	0.31 JN	U	0.071 J**	U	U
4,4'-DDD	0.1	0.1	U	**0.65**	U	U	U
Endrin Aldehyde	0.1	None Given	0.13	U	U	U	U

Pesticide contamination data illustrated in the above data was limited to data that was equal to or exceeded the Method Detection Limit (MDL), except in the case of monitoring wells 2614909-5 and LB-MW1.

HISTORICAL DATA

Historical data indicates that Louis Berger & Associates, Inc., sampled monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986 for Priority Pollutant Pesticides. No pesticide contamination was detected during this sampling event. Priority Pollutant Pesticides include Beta-BHC, 4,4'-DDE, 4,4'-DDT, Endosulfan Sulfate, and Endrin Aldehyde.

Historical data indicates that Wehran Engineers & Scientists sampled monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 21, 1988. No pesticide or herbicide contamination was detected during this sampling event.

NOTES

** Data did not equal or exceed the MDL
* MDL exceeds NJGWQC
All data indicated in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method detection Limit
J - Estimated Value
JN - Presumptive evidence of a compound at an estimated value
R - Rejected Data

TABLE 4
Bayonne Barrel & Drum Site
Polychlorinated Biphenyls (PCBs)

START sampled 11 of the 12 monitoring wells on site for PCBs between November 30 - December 2, 1998. Seven species of Arochlors were examined (1016, 1221, 1232, 1242, 1248, 1254, 1260). The only monitoring well that showed any signs of PCB contamination was BBD-C5.

PCB	MDL	NJGWQC	BBD-C5
Arochlor-1254	1.00 ug/L	0.02 ug/L	**1.7 ug/L**

HISTORICAL DATA

Historical data indicates that Wehran Engineers & Scientists sampled monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 2, 1988, for PCBs. No contamination was detected.

Historical data indicates that Louis Berger & Associates, Inc., sampled monitoring wells LB-MW1, LB-MW2, and LB-MW3 on May 27, 1986, for PCBs. No contamination was detected.

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, and BBD-C5 for PCBs on January 7, 1986. The only monitoring well that showed any signs of contamination was BBD-C5.

PCB	MDL	BBD-C5
Arochlor-1254	1.0 ug/L	**53 ug/L**

It is interesting to note that BBD-C5 is located in the former "Oil Storage Area" of the site.

NOTES

All data indicated in micrograms per liter (ug/L)
Bold denotes data that exceeds NJGWQC
NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method detection Limit

TABLE 5A
Bayonne Barrel & Drum Site
Metals

			BBD-C1		BBD-C3		BBD-C4		BBD-C4		BBD-C5	
			START		START		START		D. Raviv		START	
METALS	IDL	NJGWQC	12/02/98		12/01/98		11/30/98		01/27/86		12/01/98	
Aluminum	22.1	200	123	B	63.7	B	31.7	B	NS		46.6	B
Antimony	1.7	2	1.7	U	**4.5**	B	1.7	U	ND		**50.9**	B
Arsenic*	1.7	0.02	**17.2**		**15.4**		**21.7**		10.0		**3.3**	B
Barium	0.4	2,000	125	B	217		288		NS		164	B
Beryllium*	0.2	0.008	**0.20**	U	**0.22**	B	**0.2**	U	ND		**0.2**	U
Cadmium	1.0	4	2.5	B	1.0	B	3.7	B	ND		1.0	U
Calcium	14.6	None Given	216,000		64,200		286,000		NS		61,700	
Chromium	0.6	100	18.4		2.1	B	2.4	B	ND		4.6	B
Cobalt	0.4	None Given	6.2	B	4.3	B	1.3	B	NS		3.2	B
Copper	0.8	1,000	1.4	B	10.7	B	1.7	B	40.0		8.6	B
Iron	8.5	300	**29,400**		**1270**		**62,400**		NS		**902**	
Lead	0.7	5	2.5	B	1.6	B	1.1	B	ND		2.1	B
Magnesium	7.9	None Given	38,400		93,500		40,300		NS		11,400	
Manganese	0.2	50	**6800**		**8350**		**2460**		NS		**140**	
Mercury	0.1	2	0.10	U	0.10	U	0.1	U	ND		0.37	
Nickel	0.7	100	17.3	B	8.7	B	15.5	B	ND		7.5	B
Potassium	25.9	None Given	38,200	J	65,200	J	38,200	J	NS		7460	J
Selenium	2.4	50	3.3	B	3.3	B	5		ND		2.4	U
Silver	0.4	N/A	0.40	U	0.40	U	0.4	U	30.0		0.4	U
Sodium	128	50,000	**145,000**		**1,010,000**		**123,000**		NS		**114,000**	
Thallium*	2.9	0.5	**5.6**	B	**5.1**	B	**5.1**	B	ND		**2.9**	U
Vanadium	0.4	None Given	1.8	B	5.3	B	3.1	B	NS		2.9	B
Zinc	1.5	5,000	1.5	U	1.5	U	5	B	30.0		10.6	B

NOTES
*IDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
WELL-B is the duplicate sample of LB-MW2
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
CRDL - Contract Required Detection Limit
IDL - Instrument Detection Limit (for START's sample analysis)
B - Between the IDL and CRDL
J - Estimated Value
U - Non-Detected Compound
ND - Not-Detected
NS - Not Sampled

TABLE 5B
Bayonne Barrel & Drum Site
Metals

			WELL-A		MW-29WA		2614909-5		2614920		RIN-001		RIN-002		RIN-003	
			START		START		START		START		START		START		START	
METALS	IDL	NJGWQC	11/30/98		12/01/98		12/02/98		12/02/98		11/30/98		12/01/98		12/02/98	
Aluminum	22.1	200	37.9	B	**267**		22.1	U	22.1	U	22.1	U	22.1	U	22.1	U
Antimony	1.7	2	1.7	U	**5.9**	B	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U
Arsenic*	1.7	0.02	**3.8**	B	**22.1**		**9.4**	B	**7.6**	B	**1.7**	U	**1.7**	U	**1.7**	U
Barium	0.4	2,000	330		1300		1590		347		0.42	B	0.4	U	1.1	B
Beryllium*	0.2	0.008	**0.2**	U	**0.2**	U	**0.2**	U	**0.2**	U	**0.2**	U	**0.2**	U	**0.2**	U
Cadmium	1.0	4	1.3	B	**4.7**	B	1.3	B	2.9	B	1	U	1	U	1	U
Calcium	14.6	None Given	118,000		76,000		131,000		239,000		14.6	U	14.6	U	55.7	B
Chromium	0.6	100	6.3	B	19.6		4.9	B	3	B	1.5	B	0.94	B	1.5	B
Cobalt	0.4	None Given	0.6	B	115	J	0.93	B	1.6	B	0.82	B	0.75	B	1.6	B
Copper	0.8	1,000	2.2	B	27.3	J	1.3	B	0.95	B	2	B	0.8	U	1.1	B
Iron	8.5	300	**7910**		**40,600**		**23,900**		**47,000**		56.2	B	19.7	B	54.8	B
Lead	0.7	5	0.7	U	**264**		3.3		0.7	U	0.7	U	1.1	B	1.7	B
Magnesium	7.9	None Given	37,500		8880		41,500		37,200		26	B	21.9	B	28.2	B
Manganese	0.2	50	**922**		**613**		**225**		**679**		3.7	B	2.6	B	3.1	B
Mercury	0.1	2	0.1	U	0.13	B	0.1	U	0.1	U	0.1	B	0.1	U	0.1	U
Nickel	0.7	100	12.1	B	**541**		34.9	B	11.7	B	1.5	B	1.4	B	5.1	B
Potassium	25.9	None Given	62,800	J	4530	B	31,400	J	53,400	J	25.9	U	25.9	U	25.9	U
Selenium	2.4	50	2.4	U	2.4	U	2.4	U	3.5	B	2.4	U	2.4	U	2.4	U
Silver	0.4	N/A	0.4	U	0.82	B	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
Sodium	128	50,000	**568,000**		41,000		**50,400**		**63,500**		435	B	332	B	301	B
Thallium*	2.9	0.5	**2.9**	U	**2.9**	U	**2.9**	U	**2.9**	U	**2.9**	U	**2.9**	U	**2.9**	U
Vanadium	0.4	None Given	5.8	B	2.9	B	2.4	B	3.3	B	0.4	U	0.4	U	0.4	U
Zinc	1.5	5,000	1.5	U	3570		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U

NOTES:
*IDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
WELL-B is the duplicate sample of LB-MW2
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
CRDL - Contract Required Detection Limit
IDL - Instrument Detection Limit (for START's sample analysis)
B - Between the IDL and CRDL
J - Estimated Value
U - Non-Detected Compound
ND - Not-Detected
NS - Not Sampled

TABLE 5C
Bayonne Barrel & Drum Site
Metals

			LB-MW1		LB-MW1	LB-MW2		WELL-B		LB-MW2	LB-MW3		LB-MW3
			START		L. Berger	START		START		L. Berger	START		L. Berger
METALS	IDL	NJGWQC	12/02/98		5/27/86	11/30/98		11/30/98		5/27/86	12/02/98		5/27/86
Aluminum	22.1	200	43.3	B	NS	**286**		87.7	B	NS	22.1	U	NS
Antimony	1.7	2	1.7	U	**3.1**	1.7	U	1.7	U	**2.6**	**45.1**	**B**	**3.1**
Arsenic*	1.7	0.02	**4.2**	**B**	**2.0**	**8.7**	**B**	**2.8**	**B**	**2.0**	**5.0**	**B**	ND
Barium	0.4	2,000	434		NS	130	B	104	B	NS	146	B	NS
Beryllium*	0.2	0.008	**0.20**	**U**	ND	**0.20**	**U**	**0.20**	**U**	ND	**0.2**	**U**	ND
Cadmium	1.0	4	1.3	B	0.83	1.0	U	1.2	B	ND	1.7	B	2.5
Calcium	14.6	None Given	126,000		NS	76,400		112,000		NS	58,100		NS
Chromium	0.6	100	1.2	B	1.4	7.9	B	3.5	B	2.39	3.7	B	12
Cobalt	0.4	None Given	1.6	B	NS	1.2	B	0.41	B	NS	2.9	B	NS
Copper	0.8	1,000	1.2	B	7.8	3.2	B	1.1	B	8.39	8.3	B	7.8
Iron	8.5	300	**11,000**		NS	**14,300**		**11,600**		NS	**804**		NS
Lead	0.7	5	1.4	B	ND	**6.5**	**J**	2.4	BJ	ND	0.70	U	ND
Magnesium	7.9	None Given	16,800		NS	33,300		47,200		NS	10,400		NS
Manganese	0.2	50	**990**		NS	**1060**		**1250**		NS	**130**		NS
Mercury	0.1	2	0.10	U	ND	0.10	U	0.10	U	ND	0.10	U	0.65
Nickel	0.7	100	1.4	B	ND	6.0	B	2.0	B	22	7.4	B	15
Potassium	25.9	None Given	10,500	J	NS	73,100		73,900	J	NS	6580	J	NS
Selenium	2.4	50	2.4	U	ND	2.4	U	2.4	U	ND	2.4	U	ND
Silver	0.4	N/A	0.4	U	ND	0.40	U	0.40	U	ND	0.40	U	2.0
Sodium	128	50,000	**163,000**		NS	**315,000**		**443,000**		NS	**103,000**		NS
Thallium*	2.9	0.5	**2.9**	**U**	ND	**2.9**	**U**	**2.9**	**U**	ND	**3.8**	**B**	ND
Vanadium	0.4	None Given	1.6	B	NS	3.7	B	4.2	B	NS	2.3	B	NS
Zinc	1.5	5,000	1.5	U	29	50.6	J	8.5	BJ	69	9.5	B	71.0

NOTES

*IDL exceeds NJGWQC
All data reported in micrograms per liter (ug/L)
WELL-B is the duplicate sample of LB-MW2
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
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J - Estimated Value
U - Non-Detected Compound
ND - Not-Detected
NS - Not Sampled

TABLE 5D
Bayonne Barrel & Drum Site
Metals

		MW-01	MW-02	MW-03	MW-04	MW-05
		Wehran	Wehran	Wehran	Wehran	Wehran
METALS	**NJGWQC**	06/21/88	06/21/88	06/21/88	06/21/88	06/21/88
Arsenic	0.02	**3220**	nd	nd	nd	nd
Barium	2,000	nd	237	404	nd	294
Cadmium	4	nd	nd	nd	nd	nd
Chromium	100	nd	nd	nd	nd	nd
Copper	1,000	nd	nd	nd	nd	nd
Iron	300	**44,700**	**1480**	**30,200**	**20,900**	**19,400**
Lead	5	nd	nd	nd	nd	nd
Manganese	50	**3920**	**278**	**2430**	**5050**	**1360**
Mercury	2	nd	nd	0.2	nd	0.2
Selenium	50	nd	nd	nd	nd	nd
Silver	N/A	nd	nd	nd	nd	nd
Sodium	50,000	33,400	**68,700**	**118,000**	32,300	**182,000**
Zinc	5,000	115	83	nd	32	34

NOTES

All data reported in micrograms per liter (ug/L)
Bold data denotes data that exceeds the NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
nd - Not-Detected

TABLE 6
Bayonne Barrel & Drum Site
Wet Chemistry Parameters

	NJGWQC	MDL	LB-MW1	LB-MW2	WELL-B	LB-MW3	BBD-C1	BBD-C3	BBD-C4	BBD-C5
WET CHEMISTRY										
Hardness	250,000	3000	**304,000***	**506,000****	**533,000****	201,000*	**746,000****	**590,000****	**951,000****	243,000*
Ammonia	500	100	**2520**	**18,900***	**16,600**	**4680**	**24,000**	**6190**	**22,400***	**7230**
Total Dissolved Solids	500,000	10,000	**826,000**	**1,600,000 J**	**1,760,000 J**	**10,300,000**	**1,160,000**	**3,250,000**	**1,240,000 J**	285,000
Total Petroleum HC	None Noticable	2500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	**4800**
Oil & Grease	None Noticable	15,000	**19,900**	BRL	BRL	BRL	BRL	BRL	BRL	**19,200**
Fluoride	2000	100	502	332	307	919	170	712	250	176
Odor (T.O.N.)	3	N/A	**128**	**128**	**512**	N/D	**128**	N/D	**128**	**256**
Color (PCU)	10	5.0 (PQL)	**29**	**48**	**37**	**29**	**29**	**96**	**52**	**155**
Nitrite	1000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100	<100
Nitrate	10000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100	<100

	NJGWQC	MDL	WELL-A	MW-29WA	2614909-5	2614920	RIN-001	RIN-002	RIN-003
WET CHEMISTRY									
Hardness	250,000	3000	**503,000****	**548,000****	**667,000****	**795,000****	BRL	BRL	BRL
Ammonia	500	100	**18,800**	**31,600***	**25,400***	**35,900***	BRL	BRL	BRL
Total Dissolved Solids	500,000	10,000	**2,070,000 J**	**660,000**	**2,320,000**	**881,000**	BRL J	BRL	BRL
Total Petroleum HC	None Noticable	2500	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Oil & Grease	None Noticable	15000	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Fluoride	2000	100	444	368	513	373	BRL	147	BRL
Odor (T.O.N.)	3	N/A	**640**	**32**	**128**	**80**	N/D	1	N/D
Color (PCU)	10	5.0 (PQL)	**276**	**29**	**33**	**40**	<5	<5	<5
Nitrite	1000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100
Nitrate	10000	100 (PQL)	<100	<100	<100	<100	<100	<100	<100

HISTORICAL DATA

Historical data indicates that Dan Raviv Associates, Inc., examined monitoring wells BBD-C1, BBD-C2, BBD-C3, and BBD-C5 for Total Petroleum Hydrocarbons (TPH) on January 7, 1986. All four monitoring wells showed TPH contamination, although the field blank did as well.

Dan Raviv	NJGWQC	BBD-C1	BBD-C2	BBD-C3	BBD-C5	Field Blank
Total Petroleum HC	None Noticable	2800	3700	4800	2,000,000	1800

Historical data indicates that Wehran Engineers & Scientists examined monitoring wells MW-01, MW-02, MW-03, MW-04, and MW-05 on June 21, 1988, for various wet chemistry parameters including Ammonia, TDS, and TPH.

Wehran Engineers	NJGWQC	MW-01	MW-02	MW-03	MW-04	MW-05
Ammonia	500	**2290**	**2890**	**34,900**	**21,800**	**41,900**
Total Dissolved Solids	500,000	**1,370,000**	**593,000**	**1,462,000**	**1,230,000**	**1,889,000**
Total Petroleum HC	None Noticable	**19,100**	**17,300**	**10,000**	**17,800**	**17,400**

NOTES

All data reported in micrograms per liter (ug/L) except Odor and Color
WELL-B is the duplicate sample of LB-MW2
Bold denotes data that exceeds NJGWQC

NJGWQC - New Jersey Groundwater Quality Criteria (N.J.A.C. 7:9-6, 8/96)
MDL - Method Detection Limit
PQL - Practical Quantitation Limit
T.O.N. - Threshold Odor Number
PCU - Platinum Color Unit
N/A - Not Applicable
N/D - Not Dedected
BRL - Below Reporting Limit
J - Estimated Value
*10 X D/F ; **50 X D/F